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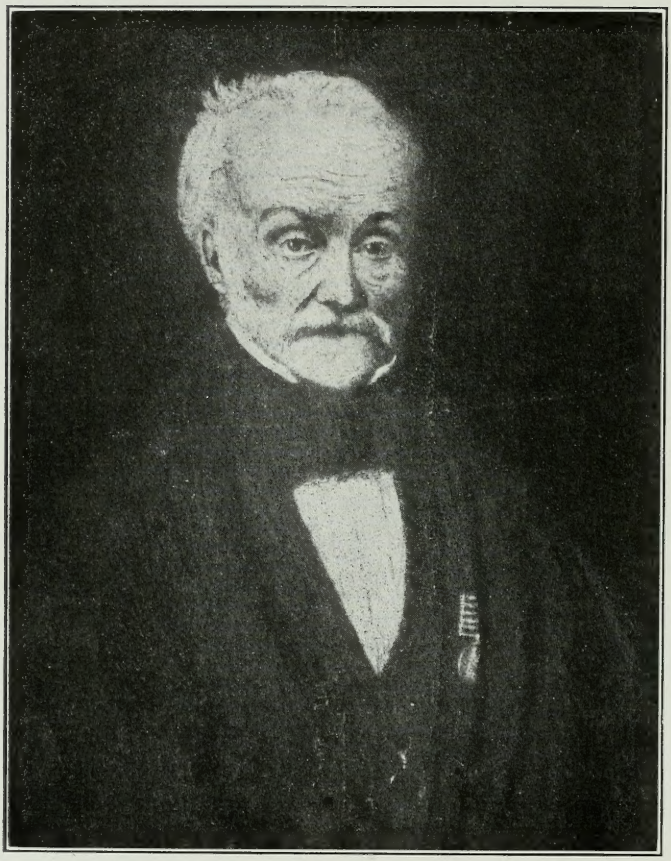

Dr. Christopher Widmer

CHRISTOPHER WIDMER

1780-1858

"A never-to-be-forgotten name" in the early history of medicine in Toronto is that of Christopher Widmer. Dr. Widmer was born at High Wycombe, Buckinghamshire, England, May 13, 1780. He came to Canada towards the close of the war of 1812-15 as Staff Surgeon to the Fourteenth Light Dragoons; and after the war settled at Toronto, or as it was then called, York. Previous to his coming the residents had to depend for medical attendance upon the surgeons attached to the regiments stationed at the various posts. It was, therefore, a great blessing to the people when such a man as Widmer decided to remain in the country.

Before coming to Canada Dr. Widmer had seen a great deal of active service in the Peninsular War. He served with marked distinction in the five battles (great in those days) of Vittoria, Busaco, Salamanca, Fuentes d'Onoro, and Talavera; for this service he was entitled to wear the medal with five clasps.

Dr. Widmer's fame as a surgeon and physician soon spread throughout the province, and residents from distant parts came to York to be under his care. His professional duties sometimes took him far a-field, as in one case when he was called to Kingston to attend Lord Sydenham. The road to Kingston, in those days, commenced at King Street, going slightly north and then straight, crossing the Don by a bridge. Dr. Widmer accomplished this long ride of one hundred and sixty miles without stopping, save to exchange horses. Arrangements were made for him so that horses were in waiting at short distances along the road. It was a wild John Gilpin ride.

For ten years he was the only qualified medical man in settled practice in York, years of arduous devoted work which won for him the hearts of the people. Wonderful, successful and delicate operations were performed at his surgery on King Street, next to the "York House." His enthusiastic admirers compared him as an operating surgeon to Sir Astley Cooper. He was one of the first in Upper Canada to recognize the value of vaccination, and many children of the poor were vaccinated free by him.

Dr. Widmer's practice became so extensive that in 1828 he took as a partner Dr. Diehl, who had lately come from Montreal. This partnership lasted for six and a half years, and was then dissolved. Perhaps the deepest impression on Widmer's mind in these early days was made by the building in 1820 of the long-wished-for and at last realized hospital—a hospital of which he became the life and soul. One of his many devoted pupils writing about him later, says: "It was always a treat to follow him around the wards, for whatever he said or did relating to a patient was worth hearing and seeing. In the operating room he was most brilliant. More than once

I have seen him complete an operation with tact and precision over which another, although skilful, became embarrassed."

A citizen of high ideals, Widmer performed his duty regardless of public opinion. The hamlet had become a city and there was wide scope for a man of his untiring zeal and activity. He accepted many important positions, and as a member of the Legislative Council he more than once went to Montreal and Quebec. He was present at nearly all the meetings of the Upper Canada Medical Board from 1819 to 1855. He was the first president of the Medical and Chirurgical Society, which he founded in 1833. Dr. C. K. Clarke, in his history of the Toronto General Hospital, says: "Dr. W. B. Geikie describes Dr. Widmer as being of medium height, somewhat taller than Lord Roberts, but having much the same figure and erect soldierly bearing. He was quick and active in all his movements."

For many years Dr. Widmer lived on King Street nearly opposite Ontario Street, a delightful residential part of the town in these early days. He acquired wealth and fame, and held the foremost place as surgeon on the continent. His only son, to whom he was passionately attached, died in 1857, and a year later while paying a visit to the grave Dr. Widmer fainted, and died shortly afterwards.

ON CANCER OF THE BREAST

By A. C. HENDRICK, M.A., M.B., F.R.C.S. (Edin.),
Assistant in Gynæcology, Toronto General Hospital.

The first symptom complained of by the patient in four-fifths of developing cancer of the breast is a lump, and it is usually the first sign for the surgeon.

It is the duty of the surgeon to be able to distinguish the benign from the malignant, for two reasons:

(a) To prevent undue mutilation of the breast in the one case.

(b) To avoid unwise delay, and incomplete operation when the lump is malignant.

A lump in the breast, or lumps, for there may be more than one, is a very important sign, and must always be carefully investigated.

The patient usually finds these lumps quite accidentally, e.g. while bathing or after reading an article on cancer in some journal, or when friends or relatives are suffering from the disease.

Pain is the next symptom to be complained of usually, but there is practically always a palpable lump by the time pain arises.

Again pain often comes on as soon as suggested to the patient. The pain may be worse at night, and is usually of a sharp, stinging character or a few twinges.

Other symptoms such as dimpling of the skin, swelling, retraction of the nipple and ulceration are later signs.

There are three phases in the life history of cancer of the breast:

I. From the moment a lump is felt in the breast, by the patient, until she reports to her family doctor. This period may range anywhere from immediate report to one to twenty years. But now that women are being trained to report earlier to their physician the presence of a lump in the breast, the problem of differentiation of the border line conditions between benign and malignant is becoming increasingly difficult.

II. The family physician. He is usually consulted before the surgeon, but what will help him in arriving at a definite conclusion as to whether a surgeon is required or not? The following points may help:

(1) **Age of the Patient.**—Cancer before the age of 25 years is very rare, but while stating this fact one must realize that often the age at which the patient first noticed the lump, and the age at which the cancer was diagnosed is a different matter. Before 25 years, one must think chiefly of lumps as benign, in childhood always, at puberty probably benign, as at puberty, most benign conditions may be first observed since the breast hypertrophies, new lobules form, and the lump may also increase in size.

(2) **Duration of the Lump.**—This is of no help since a lump of long

duration may at any time become malignant, but the duration of a lump is lessened since women are being educated to report earlier.

(3) **Trauma.**—A lump remaining longer than a few weeks after an injury in a young patient should be explored by a surgeon. Again suppose the lump did not arise until some days or weeks after history of an injury, it should also be explored. Or again, suppose a lump was known to be present before an injury, and a few days or weeks after the injury began to enlarge, explore.

(4) **Mastitis.**—A "caked breast," in the absence of pregnancy or lactation, is rare. Therefore look for a history of injury or some focus of infection inside or outside the breast, e.g. infected fingers, infected cervical glands, vaginitis, pelvic inflammation, disturbed menstruation, tuberculosis or syphilis. If the mastitis is chronic, ill-fitting corsets should be thought of.

(5) **Pregnancy.**—It is rare for a lump to arise during pregnancy. The lump was there before pregnancy but was not observed. Again if a lump was noticed before pregnancy, and began to trouble during that period, in both cases, if the patient is over 25 years of age, explore. The best period is between the third and fourth months of pregnancy. Tuberculosis is a common cause of mastitis during pregnancy.

(6) **Lactation.**—A caked breast in a nursing woman in the first three or four months may be of no serious import, but one of two things should happen:

(a) Resolution or spontaneous disappearance.

(b) Suppuration or definite abscess, which, when opened, heals, without leaving a definite deep scar.

(7) **Menopause.**—The age alone is never an indication for the radical operation—explore first.

III. **The Surgeon.**—The following lumps are clinically benign:

1. Areas of local mastitis.
2. Chronic cystic mastitis.
3. Papillomatous cysts.
4. Adenomatas cystic and fibrous.
5. Tuberculosis.
6. Gummata.
7. Fibrotic changes after abscess.

The surgeon may consider lumps due probably to one of the above causes as benign when the following signs are absent:

(a) **The presence of a lump**—not found. Often the patient on squeezing the breast between the fingers may state that she felt a lump, or has pain in the breast. But the surgeon, palpating with the flat hand, is unable to find a lump. It is a good plan not to ask the patient which breast is affected, for if she states where the lump is, imagination may often find it.

(b) **Dimpling of the skin.** If observed, this is a very important sign. It may be obvious but in early malignancy has to be sought for in the following manner: The finger and thumb are placed firmly upon the skin on opposite sides of the lump, and are slowly approximated. In malignant lumps, the fold of skin thrown up will be dimpled.

(c) **Lump adherent to the skin.** The skin does not move over the surface of the lump, due to the involvement of Cooper's ligaments, which connect the interstitial tissue of the breast to the subcutaneous connective tissue. There may be also absence of the subcutaneous fat.

(d) **Lump is adherent to the pectoral fascia over the pectoralis muscle.** To demonstrate this fact, the arm is passively elevated, so that the fibres of the pectoral muscle are put on the stretch. The surgeon grasps the lump, and moves it to and fro, in a direction parallel to the muscle fibres. Partial or complete fixation is detected.

(e) **Retraction of the nipple.** This is an important sign, provided one can be sure the nipple is not congenitally retracted.

(f) **Discharge from the nipple** is a sign usually of a growth in the ducts.

(g) **Enlarged axillary glands.** To examine for these, the patient's arm is slightly abducted, the pectoral muscles are relaxed and the arm hangs loosely by the side—the hand of the surgeon in the accoucher posture is passed into the axilla, the palm towards the chest and pushed to the top of the axilla space, then pressed against the inner wall and withdrawn—any glands on the side of the chest especially along the external mammary vein and lower border of the pectoralis minor muscle may be felt.

When one or more of these signs are present and the patient is over 25 years of age, the surgeon should explore the breast, since almost every physical sign of a benign lump may be imitated in the early stages of malignancy.

Operation of Exploration.

Under general anæsthesia, never local, as a complete and thorough operation cannot then be done and this is all important, an incision is made radially from the areola over the lump.

Hæmorrhage is completely controlled—the wound is kept dry so that one can judge of the condition of the tissue inside, a very important point as much may be learned. The ease in reaching the lump is significant. Benign lumps are practically always easily reached whilst the malignant often give much difficulty in demonstrating them.

Do not enucleate the lump but remove it with a shallow zone of breast tissue. The wound is closed with catgut, never with silk, eliminating all dead spaces and two or three deep retention silk worm gut sutures are passed and a drain is put in for forty-eight hours to avoid the formation of a hæmatoma and a hollow scar. This operation is done in cases of all lumps whether benign or suspiciously malignant. Until recently it was considered a grave mistake to explore the tumour at one sitting and remove the lump two days following when the diagnosis had been confirmed by the pathologist. Now, however, most surgeons advise operation on these border line lumps that are clinically often apparently benign, in two stages, and no harm has come of it. Our knowledge that the spread of cancer is by permeation chiefly and rarely by embolism would confirm this attitude. Of course in the definitely malignant lump there is no object in doing an exploratory operation.

The Radical Operation for Cancer.

Since the spread of cancer is practically always in its early stages by embolism and by permeation along the lymphatic vessels, a definite knowledge of the development of the breast and its lymphatics should be possessed by all surgeons and therefore a brief outline of the development of the breast is given.

(a) **Origin of the Glandular Tissue of the Breast.**

The mammary line extends as a slight ridge from the axilla to the groin and in some mammals as, for example, the pig, breast tissue is developed along the whole of this line.

Stages in Development.

(1) Before Birth.—The deeper layer of the epiblastic mammary line, at a certain area, thickens and becomes depressed, leaving a slight pit on the surface. From the depressed area a number of solid buds arise. The stocks of these buds, twelve to twenty in number, eventually become the lactiferous ducts, each solid bud develops into a lobe with its lobulas and alveoli by subdivision at its growing end which is at first solid. These become hollow from the seventh to the ninth month of fœtal life and the broken down epithelium is the "witch's milk."

(2) At Birth.—The pit from which the buds arise is elevated and therefore the ducts open on the apex of the nipple.

An enlargement, the ampulla, is developed in each duct near the nipple. At puberty the latent infantile lobules rapidly grow and form minor lobules and acini. At or near the end of pregnancy the same process begins with formation of new glandular tissue. At the menopause atrophy of glandular tissue takes place, therefore malignancy may arise at any one of the three latter epochs.

(b) **Origin of the Mesoblastic Portion.**

As the epiblastic glandular buds grow into the connective tissue that tissue reacts and hypertrophies around them.

These epiblastic buds divide the mesoblastic tissue into a superficial and a deep layer which are joined by the interstitial septa. The superficial and the deep layers incompletely fuse at the circumference of the breast. The glandular buds as they grow out carry a sheath of connective tissue.

This important fact is also observed, that the superficial layer of capsular tissue is connected with the subcutaneous tissue, and the deep with the deep layers of fascia over the pectoral muscles, for they are all parts of the same mesoblastic layer.

Lymphatics.—Each part of the capsule carries a network of lymphatic vessels into which the lymph of the mammary gland flows. The network of lymphatic vessels about the ducts and their lobes, lobules and alveoli connect through the interstitial septa, with the superficial mammary plexus in the superficial capsule and with the retromammary capsular lymphatic plexus.

The superficial lymphatic plexus then unites with the subcutaneous and the retromammary with the deep pectoral fasciæ plexus. The deep and superficial lymphatic vessels join at the circumference of the breast and from there pass by the efferent vessels to the pectoral glands along the external mammary vein at the lower border of the pectoralis minor to the central glands of the axilla; from there the lymph passes to the deep axillary and inferior deep cervical glands, the inferior and superior clavicular glands. A few pass to the intercostals of the upper four spaces, occasionally a gland is found on the cephalic vein, and since this vein may occasionally join directly to the external jugular vein, lymph may pass over the clavicle to the supraclavicular glands.

Therefore a radical operation is based upon a clear knowledge of the lymphatic system of the pectoral region and the fact that the spread of cancer is chiefly by permeation along the deep fascial planes of the thorax.

Again the fact that the breast overlaps the serratus anterior muscle and that this muscle originally extended to the level of the fifth, sixth and seventh cervical segments, explains also the necessity of extending the operation to the supraclavicular region, and the other fact is that the pectoral muscles are developed from the deep layer of the abdominal panniculus muscle (described by Parsons) along with the sternalis muscle, and that the deep fascia over the external oblique muscle below is also derived from the deep layer of the abdominal panniculus, and further that the deep portion of this same panniculus muscle is in the cervical region incorporated with the anterior surface of the sterno-cleido-mastoid muscle. This upward extension explains the probable cause for the involvement of the supraclavicular glands, and also explains why some of the lymphatics of the pectoral region, amongst which may be included some occasional vessels from the mammary gland, also end in the supraclavicular glands. The efferents from these glands usually empty into the common jugular lymphatic vessels, but may involve some glands belonging to the deep cervical chain and lying beneath the lower end of the sterno-mastoid muscle. Also since the pectoral muscles are continuous with the deep fascia of the recti muscles, one has an anatomical reason for extending the dissection of the deep fascia to the epigastric triangle.

The skin incision is usually elliptical and extends from the beginning of the brachial artery just above the anterior fold of the axilla, and never nearer than two inches to the lump to be removed, and never within less than half an inch of the areola, and extends inwards encircling the breast and terminates at a point half-way between the ensiform cartilage and the umbilicus in the mid-line. Another elliptical incision joins this one below the breast, always keeping at least two inches away from the growth.

The following structures are removed in one continuous dissection, as has been insisted upon by Halstead:

1. The whole of the mammary gland and an area of skin always including the areola and one-half inch beyond it, and two inches beyond the growth at least.

2. Both pectoral muscles, with the clavicular portion of the pectoralis major, and the costo coracoid membrane.

3. The whole of the lymphatic area including fat and fascia extending from the clavicle above to midway between ensiform cartilage and the umbilicus and an inch and a half on each side of the middle line from this mid-point to the opposite clavicle, and extending in the axilla to its highest point, and downwards to the commencement of the brachial artery. Also the deep fascia over the serratus anterior and the subscapular muscles and upper portions of external oblique and recti muscles. When the patient's condition permits, it is certainly wise to remove the glands in the supra-clavicular portion of the posterior triangle of the neck of the involved side. This may be done in a week or ten days after the primary operation, by an angular or curved incision running along the outer border of the lower end of the sterno-mastoid muscle and the upper border of the clavicle. The only structures that one must avoid are the nerve of Bell and the long subscapular. Until the whole of the lymphatic area as above described has been removed, one should never speak of the operation for cancer of the breast as complete.

Important Points of the Operation:

1. The skin incision is never less than two inches from the growth or less than one-half inch from the areola.

2. Remove some fat with the skin to preserve its blood supply.

3. Raise a fringe of deep fascia all around with a radius of at least five inches from the growth.

4. Remove the clavicular portion of the pectoralis muscle for the reason described in the above description of its development.

5. Remove the pectoralis minor muscle.

6. Remove the costo-coracoid membrane below the clavicle.

7. Remember the costo-coracoid membrane is closely adherent on its deep surface to the subclavian vein; therefore keep the arm steadily abducted at this stage of the operation, since advancing the clavicle pulls upon the subclavian vein, rendering it more patent and in the event of wounding it, air may more easily enter the vein with sometimes serious results.

8. Remove the deep fascia over the origin of the pectoralis major muscle one and a half inches beyond the middle line, since the fibres of origin of the two pectoralis muscles interlace.

9. Remove the deep fascia over the origin of the pectoralis major from the recti muscle, half-way to the umbilicus and one and a half inches beyond the mid-line.

10. Remove the deep fascia over the origin of the external oblique since this fascia is a direct continuation developmentally of the pectoralis.

11. Clear the fascia from the anterior digitations of the serratus anterior and from the subscapular muscles.

12. Remove the fat and fascia behind the highest portion of the axillary vessels. This point is strongly insisted upon by Sir William Watson Cheyne.

13. Clear the cephalic vein.

14. Remove the supraclavicular glands either at time of major operation or one week to ten days later.

15. Remember the lateral intercostal arteries anastomose with the subscapular vessels and therefore unrecognized wounding of this anastomosis may cause severe subsequent hæmorrhage.

16. Preserve the long subscapular nerve and the nerve of Bell.

17. Sir Harold Stiles states that some of the lymphatic glands of the axilla are often no larger than a pin's head, and that they sometimes undergo a functional involution so that they may resemble fat globules. Therefore remove all the fat in the area of the glands.

18. From the mode of development of the breast, one learns that the mammary tissue will of necessity be scattered and have no true capsule. Therefore the reason for wide ablation of the mammary area.

19. In advanced cases:

(a) Examine the supraclavicular area and more especially the region covered by the lower end of the sterno-mastoid muscle for palpable glands.

(b) Examine the epigastric area for tenderness.

(c) Make a pelvic examination for discovery of a mass in the pouch of Douglas or the ovarian area.

(d) Look for jaundice or ascites.

If one or more of these signs are present the surgeon has been called too late.

Finally, one cannot do better than quote the valuable opinion of Sir Watson Cheyne who states that—

"The patient's chance lies in the first operation."

"A gentleman had his first bicuspid knocked out and the second loosened. The first was driven quite into his mouth and he spit it out upon the ground, but immediately picked it up and put it in his pocket. Some hours afterwards he called upon me, mentioned the accident, and showed me the tooth. It was not quite dry, but very dirty, having dropped on the ground, and having been some time in his pocket. I immediately put it into warm water, let it stay there to soften, washed it as clean as possible, and then replaced it, first having introduced a probe into the socket to break down the coagulated blood which filled it. I then tied these two teeth (the detached first and the second loose, premolar) to the first grinder and to the canine with silk, which was kept on for some days and then removed. After a month they were fast as any teeth in his head."

More than one hundred years ago, John Hunter, the renowned investigator, recorded the above case. At this time he was particularly interested in the study of bone life. His observations proved that bone could be transplanted and grafted, yet it was not until 1880 that Macewen, of Glasgow, presented to the world the modern practice of bone-grafting. Hunter's experiments were fraught with failure because sepsis, in his time unconquered, barred his pathway. In other words—he was in advance of the times.

*SOME POINTS IN THE TECHNIQUE OF GASTRO-INTESTINAL OPERATIONS

By S. M. HAY,
Associate Professor of Clinical Surgery, Toronto University; Chief of Surgical Service, Toronto Western Hospital; Consulting Surgeon, Toronto Orthopedic Hospital.

Mr. Chairman and Fellows of the Toronto Academy of Medicine:

My short contribution to the programme this evening is not intended for the surgeon or specialist. My hope is that I may be able to say something interesting, and perhaps something helpful, to the general practitioner and the beginners in surgery.

The average medical practitioner of to-day especially in the outlying districts, away from the larger centres of population, is frequently called upon to open the peritoneal cavity for some of the abdominal emergencies.

If we could always be positive of our diagnosis we would know what cases we felt competent to operate upon and also the ones that we felt were perhaps beyond our experience. But unfortunately when the abdomen is opened it has many surprises for the specialist as well as for the general practitioner or the beginner. It is with the view of helping the latter that I have undertaken this task.

For a moment let us consider some of the anatomical peculiarities of the different parts of the intestine, which will help us the better to understand the surgical procedures which are best suited to those different parts. Of the four coats of the intestine each has its peculiarity. The mucous coat is the most friable, the submucous is the toughest or strongest, the muscular the thickest and the peritoneal coat is incomplete, that is it does not completely surround the intestine, the uncovered portion being at the mesenteric attachment. The portion uncovered varies in different parts. It is smallest in the ileum where about one-tenth of the circumference is uncovered. In the duodenum, ascending and descending colons nearly one-half of the circumference is covered. In the transverse colon and sigmoid about one-fifth is uncovered. In the peritoneum the earliest and firmest adhesions take place. Therefore in doing an anastomosis it is important to select portions well covered by peritoneum. Generally speaking the intestines most completely covered by peritoneum are most suitable for end-to-end anastomosis, while that method is very risky in the ascending and descending colons where about one-half of the circumference is uncovered by peritoneum. In these one-half uncovered portions the side-to-side, or lateral, anastomosis is generally more applicable.

The mobility of intestines should be considered in uniting one part to another. We should not unite a movable piece of intestine to a fixed por-

*Read before the Surgical Section of the Academy of Medicine, Toronto, October, 1917.

tion. Thus the ileum should not be connected to the ascending or descending colons, but may be united to the transverse colon or sigmoid. In resection of the cecum we frequently unite the ileum to the transverse colon. Here we generally close the end of the ileum and the end of the transverse colon and then do a lateral anastomosis.

If you wish to secure a little practical experience this may be obtained in a few hours by securing from the slaughter house a supply of the small intestines of the ox. These are practically the same in size and thickness and, when fresh, resemble closely the human intestine. With an ordinary household needle, with cotton or linen thread, a few forceps or clamps, we may proceed to do all the ordinary gastro-intestinal operations. We should perform the following operations and repairs: (1) Stab wounds; (2) bullet and buckshot wounds; (3) end-to-end anastomosis; and (4) side-to-side or lateral anastomosis. If we can do a side-to-side anastomosis we can do a gastro-enterostomy as the technique is the same. I would be disposed to advise the side-to-side method wherever it is practicable for those of limited experience. For some years I have employed this animal intestine method of giving practical instruction in my clinics. It is astonishing how quickly the students become fairly expert in the various operations on the intestine. It also gives them a feeling of real confidence. With these few points and principles in mind we are able to proceed intelligently with any of the surprises that may arise in the ordinary abdominal emergency.

Stab wounds are best closed by a continuous Lembert or Halsted mattress suture. In either case the suture line should extend one or two stitches beyond the ends of the wound. Either the Lembert or Halsted will invert the wound edges and make a firm union between the serous surfaces. This method is much better than the ordinary purse string which I never use now unless covered again by a Lembert. In some bullet wounds there is considerable loss of substance. In such cases the stitches are passed lengthwise to the intestine and the resulting scar or suture line will be transverse instead of lengthwise. If the loss of substance be very great it may be necessary to resect and anastomose. For the want of this simple working knowledge many embarrassing and some fatal mistakes have been made.

I have known a general practitioner diagnose a case as appendicitis and it seemed so plain and simple he undertook to operate himself. On opening the abdomen he found the appendix apparently normal. He felt that he had not reached the trouble and was conscientious enough and fortunate enough to secure quickly the assistance of a surgeon who enlarged the incision and soon found a perforation of the stomach which he promptly repaired and the patient recovered.

Another general practitioner operated for appendicitis on a very sick patient. The appendix was not bad and the doctor wondered why the patient steadily grew worse and died in a day or two. After more particulars were learned regarding the onset there is very little doubt that the patient died of gastric or duodenal perforation.

You would expect in these two cases to get a history of gastro-intestinal

trouble. And it is just possible that a careful examination before operation would have shown a disappearance of the liver dullness, a board-like hardness all over the abdomen, and collapse or shock far beyond that usually found in appendicitis.

Again we occasionally find a child operated on for appendicitis. An innocent appendix is removed and a day or two later a right sided pleurisy is discovered and the patient passes through an ordinary attack of pleurisy. I believe this occurs comparatively frequently.

On one occasion I was asked to see a young girl in consultation who was said to have been taken with appendicitis during the previous night. I was supposed to confirm the diagnosis and operate at once. The history was that the child awakened in the night with nausea and vomiting. This was soon followed by pain in the right side of the abdomen. This history made me question at once the diagnosis of appendicitis. We then examined the chest carefully with negative result. We suggested that we do not operate at once but see the patient together later in the day. That night or the next morning it became evident that the child had a right sided pleurisy, probably commencing in the diaphragm. The point I wish to make here is this: Pain is the first symptom in appendicitis and nausea or vomiting come later. If this order is reversed we should at once begin to doubt our diagnosis.

Do not think that these careless methods and mistakes are confined to any one hospital or group of workers. They are fairly evenly distributed over the various institutions of the city and country. The remedy for all this is quite simple and consists in a more thorough preparation for the work and more care in diagnosis.

When a person of limited experience opens the abdomen for some acute condition he may get many a valuable hint as to where and what the trouble is if he will observe very carefully all the things that may be observed. If on making the first nick through the peritoneum he hears a puff of gas or air escape he knows that he has a perforation of some air containing viscus, and he must search diligently and carefully for it. If on entering the peritoneal cavity a very offensive sero-pus escapes examine the region of the appendix at once. Should bile be the first thing noticed examine the duodenum at once. If gall stones be observed look for ruptured gall bladder. If liquid and clotted blood is observed examine for ectopic gestation. When the fluid encountered contains lymph or particles of food search for gastric perforation. In this condition on introducing the fingers, or perhaps the hand, into the upper abdomen it should be done with the greatest possible gentleness. Roughness must be avoided. Every movement should be made with gentle quickness and definite purpose. On passing the hand up towards the stomach we may encounter a thick localized deposit of lymph. On disturbing this an extra amount of fluid is liberated. This is a reliable guide to the location of the perforation. You can easily recognize a perforation of the stomach by the escape of bubbles of air through the opening. Do not try to close this by a purse string suture. It is apt to tear out when tightened on account of the œdematous and friable condition of the tissues.

It is best to close the opening by using a small round curved needle threaded with No. 1 chromic catgut or fine silk. Two layers of Lemberts or Halsteds should be applied. In some cases you may not be certain of the security of the closure. In this case bring over a portion of omentum, without tension, and stitch it over the site of your sutures. I have seen one or two cases where the stitch holes of the sutures continued to bleed fairly freely on account of the congestion of the parts. Here I have taken a strip of gauze packing and placed it firmly over the bleeding part, leaving the other end protruding through the abdominal wound.

The same general line of procedure is applicable to other gastro-intestinal conditions which may be met with as emergencies.

Now I do not for one moment wish the general practitioner, or the occasional operator, to think that he holds a monopoly on or has a corner on all the mistakes that are made. Indeed the surgeon and the specialist has his time of embarrassment and humiliation.

Is it not far too common to have the family physician call up the surgeon and say: "I have a case of acute appendicitis, or a case of intestinal obstruction or an ectopic or a perforated stomach and I wish you to operate at once"? The answer comes back: "All right, send her into the hospital, have everything ready and we will operate in half an hour." The surgeon operates, comes out of the operating room and says: "It is really too bad, I am very sorry, you know I accepted his diagnosis." Is that fair to the physician? Is it fair to the patient? The surgeon is positively to blame. He should every time, together with the physician, question the patient carefully, secure a reasonably complete clinical history, make a careful personal examination of the patient, and together they should confirm or correct the diagnosis. This is only fair to the physician and to the surgeon, and the patient has a right to demand it.

And how slipshod are many of our consultations! We go into the room, ask the patient a few questions, make a superficial examination, look wise, go into another room, close the door and at once proceed to talk about the war, the Military Hospitals Commission, the mistake of some brother doctor, or the mileage we are getting to the gallon of gasoline. This is all wrong and should be corrected. We should secure a careful clinical history, make a thorough examination, employ all the latest scientific aids to diagnosis, and then draw our conclusions. After all this is done we must remember the remark of the late Dr. Lawson Tate: "In abdominal conditions absolute accuracy in diagnosis is often far from being possible, only the ignorant assert that it is and only the fool waits for it." But when a man employs every known means of arriving at a diagnosis and then fails, he has at least done his full duty. I try to drill it into my students that there are far more mistakes made by not examining thoroughly than by not knowing.

How prone we are to be a little careless regarding our diagnosis, even though it is the very foundation, the chief corner-stone of all scientific medicine and surgery. We are apt to say I am not sure, we will open up and see. Now in those cases which I have referred to, they opened up and

did not see, they opened up and did not find the trouble, they opened up and not finding what they expected did not feel equal to the task of making that diligent, careful, methodical search which alone finds the secrets that are hidden away in that mysterious abdominal cavity.

Many a time the abdomen has been opened and promptly closed, the condition being called "inoperable." The wrong word was used, it should have been "incompetent." Frequently such cases ARE operable to the experienced surgeon. Would it not be better for the aspirant after surgical fame to assist some master surgeon for years than to gain his knowledge and experience at the expense of the health and perhaps the life of his patients? My idea is not to discourage the beginner but to point out the advantage to himself of serving a reasonable apprenticeship to some competent senior before taking upon himself the serious responsibilities of a surgical practice.

In conclusion I am not unmindful of the very elementary nature of this paper. But if it should be a little helpful to some one of very limited experience, I will feel that my effort has not been entirely lost.

Dr. F. J. Cotton and Dr. John Duff, jun., of Boston, Massachusetts, have described in *Surgery, Gynecology and Obstetrics* a new method of placing a metal band round a fractured bone. The use of a wide band has been found to give rise to a weak spot in the bone, for in several cases the bone has broken later at the exact site of the band; it is probable that the broad band has interfered with the nutrition of the bone locally. This disadvantage can be obviated by the use of a very narrow band, in fact, a piece of wire. Binding a broken bone with wire is no new procedure, but the authors have devised a very neat and effective way of drawing the wire tight without breaking it. The wire has a brazed loop at one end, and when the wire has been passed around the bone, the loop is fastened to a hook in a special pair of forceps and the other end of the wire is fixed with a screw; by approximating the handles of the instrument the wire is drawn taut, and then a turn and a half fixes the wire. The apparatus is certainly convenient for use in fractures where wiring will suffice; it certainly deserves a trial. The authors use phosphor-bronze wire, and they have employed the method with success in a few cases, but not in a sufficient number definitely to establish its value.

ACUTE POST-OPERATIVE DILATATION OF THE STOMACH

By J. F. LESSEL, M.D., C.M.,
Demonstrator of Anæsthetics, Dalhousie University, Halifax.

Ætiology.—Definite cause not known, probably a peculiar make up of the patient, and not specifically due to the operation or anæsthetic. The type of patient most susceptible to this condition is one between thirty and fifty years old, above normal both in height and weight, not fat, but in men rather muscular or portly and in women distinguished; in both rather soft and out of training. There is a marked tendency for the condition to recur at a second operation. In all cases the operation is abdominal or near-abdominal.

Incident.—Occurs in 1% to 2% of abdominal operations. It is ten to twenty times more frequent among private cases than in hospital general ward cases.

Pathology.—(1) The absorbing function of the stomach is altered to one of secretion. (2) The capacity of the stomach is increased. (3) The secretion is altered to a muco-grumous material.

Symptoms.—After an abdominal operation that may vary from a simple interval appendix to a gastro-enterostomy or even more severe operation, the patient makes a good anæsthetic recovery without vomiting, and is very comfortable for the ensuing twelve hours or so. The patient then complains of slight discomfort and distension in the left hypochondriac region with rise in pulse rate of from 10 to 20 beats. There are no further symptoms, except restlessness and a feeling of apprehension for about five or six hours, when a large quantity of a dark, muco-grumous, coffee-ground material is vomited. The temperature is sub-normal in afebrile cases, and the patient looks and feels very ill.

Course and Prognosis.—In untreated cases vomiting continues until patient dies of exhaustion in nearly every case. Prompt recognition and treatment at the first vomit will save about 90%, while a delay of six hours in treatment will result in the death of about nine out of ten cases.

Prophylaxis.—In suspected cases, a hypodermic of strychnine grs. 1/30 to 1/20 is given eight hours after the operation, and the same is repeated four hours later. This either prevents dilatation altogether, or modifies it considerably.

Treatment.—1. The stomach must be washed out, emptied, and kept so. This should be done as often as necessary at intervals of from four to six hours on the first day and thereafter as required. Sodium bicarbonate ʒi to O.i using three to four quarts, is best for use the first day; sub-

sequently mucous membrane stimulants, such as Listerine ʒi to O.i or Tr. Lavandulae Co. may be substituted or added.

2. Strychnine should be given in full physiological doses, grs. 1/30 to 1/20 every two or three hours until its action is established. In severe cases this drug should be given until signs of overdose appear, such as tingling of the fingers and alert sudden action of the muscles.

3. Water should be given by the rectum ʒviii to ʒxviii as long as the patient will absorb the same. If necessary, subcutaneous or intravenous saline should be given to keep up the supply of body fluids.

4. No attempt should be made to give food per os.

5. Pituitary, camphor and caffeine may have some uses in supporting the patient.

Recovery from this condition is usually as sudden as its onset. Relapses are rare, and the stomach resumes its functions usually as soon as it recovers its muscular tone. Feeding may then be cautiously resumed.

There are many amusing incidents to be related by the medical officer in the army. It was the day of examination, lectures were finished, the course of practical demonstrations completed. The boys were up for their orals (what memories the word recalls!) and here are some of the questions and the replies they elicited:

Medical Officer: "What is 'hæmorrhage'?"

Tommy: "Bleeding, sir."

M. O.: "How many kinds of bleeding are there?"

T.: "Three, sir."

M. O.: "Yes, what are they?"

T.: "Artillery, venereal and caterpillar, sir."

Another candidate was perceptibly nervous. His answers were hazardous and in most instances failed to receive the approbation of the M. O., who was endeavouring to find a question which might elicit a correct reply. Finally, handing the man a rib, he asked what it was. Tommy's countenance immediately changed. A ray of hope illuminated it and an air of assurance clothed him as with a garment. Putting the rib to his forehead, he replied, "The frontal bone, sir."

A third hopeful was asked, "When food is swallowed, what organ does it enter?"

"The stomach, sir," replied Tommy.

"And to where does it pass from there?"

"The heart, sir."

"The heart! My goodness, man, what makes you think that?"

"Because, sir, I have always understood that the shortest way to a man's heart was through his stomach."

CURRENT MEDICAL LITERATURE

HEART FAILURE AND PREGNANCY*

By Sir JAMES MACKENZIE, M.D., LL.D., Edin., F.R.C.P. Lond., F.R.S.
Physician to the Cardiac Department, London Hospital.

It is a curious thing that authorities when dealing with heart affections carefully avoid giving a clear and definite description of what they conceive to be heart failure. The result is a prevalent idea that all abnormal signs are evidences of heart failure, for we will find such signs as murmurs and irregularities described as if they were phenomena of this nature. It must, therefore, be grasped that no cardiac murmur or irregularity is an evidence of heart failure, with the possible exception of the irregular action called pulsus alternans (which probably never occurs in pregnant women, and only when the heart failure is so extreme that the conclusion can be arrived at independently). Another idea that must be got rid of is the back pressure theory of heart failure. It is the existence of this notion that makes doctors so frightened of a mitral leak, as the regurgitant blood is supposed to flow back, and embarrass in succession the left auricle, the circulation, the lungs, and the right heart.

The part played by murmurs in relation to heart failure is limited to the fact that the presence of a murmur may indicate occasionally that the heart has been damaged by some process. As I have said, such murmurs are few and practically limited to those characteristic of mitral stenosis and aortic regurgitation. It follows that the great majority of systolic murmurs in whatever area they are heard throw no light on heart failure, and are of no significance. In the few instances when they may be helpful as evidence of a damaged valve the final decision will depend upon the manner in which the circulation is maintained.

Heart failure is essentially a question of myocardial efficiency. I am accustomed to describe the force possessed by the cardiac muscle as of two kinds, a force which maintains the circulation when the body is at rest—the rest force; and a force called into play when effort is made—the reserve force. Heart failure begins by the diminution of the reserve force, and is made manifest by a limitation of the power of the heart to respond to effort. All failing hearts show a limitation of the field of cardiac response—the first sign being the patient's consciousness that certain efforts which he used to undertake with ease and comfort now give rise to distress. But healthy hearts may show these signs when there is the added burden of

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pregnancy, for the condition then resembles an individual undertaking an effort with an impaired heart. It is necessary to bear this point of view in mind, because many practically healthy hearts burdened by pregnancy show distinct signs of inefficiency, and yet there is no danger. The notion that the left ventricle hypertrophies to meet the burden of pregnancy is not based upon trustworthy evidence. What does happen in every healthy woman is a limitation of the heart's power to respond to effort—a diminution of the reserve force, greater in some cases than in others. A careful investigation which I carried out in 100 women before pregnancy, during pregnancy, during confinement and the puerperium, showed no evidence of that hypertrophy which is supposed to meet the increased demands, for the increased demands were only met by calling upon the reserve force As the growth of the abdominal tumour proceeded the diaphragm was pushed up, the sides of the chest widened, and the heart was displaced upwards and to the left, so that the apex beat was frequently felt in the fourth interspace outside the nipple line. With the emptying of the uterus the heart's position shifted to the normal position.

It is necessary to bear these facts in mind when the question arises how to deal with a woman who has become pregnant and who is supposed to have some heart failure.

While the exhaustion of the reserve force gives rise to the same symptoms whether it is a healthy heart overburdened or a heart failing from disease, it is the extent to which the signs of cardiac inefficiency go and the progress of the failure which serve as a guide. The most striking phenomena of the progress of heart failure are the onset of dropsy, breathlessness gradually increasing till the patient has to sit up, œdema of the lungs, and persistent increase of rate or violent beating of the heart on exertion.

In regard to dropsy there is this to be remembered, that it frequently occurs in pregnancy from other causes than heart failure—in kidney affections, and from pressure of the uterus upon the abdominal veins. When it is present it must not of itself be taken as an indication of a failing heart, but only when there are present the other symptoms of heart failure. It is unnecessary to insist upon orthopnœa. When this stage is reached in heart failure the sooner premature labour is induced the better. Œdema of the lungs is probably the most reliable guide. When carrying out my investigations it was my custom to begin the examination of the patient by finding out on which side she lay, and then get her to sit up, and auscultate the base of the lung on that side. In many healthy women I found during the later stages of pregnancy that the first deep inspiration was accompanied by numerous crepitations, and that the inspiration dispelled them, so that they were not heard after. In cases that did badly these crepitations did not disappear, but tended to persist, so that their continual presence, coupled with an impaired percussion note, is such a grave sign as to indicate the need for terminating the pregnancy.

Termination of the pregnancy is indicated in mitral stenosis when œdema of the lungs persists in spite of sitting up in bed or when the heart-

rate is persistently over 100 with violent palpitation on the slightest effort. The dangers in aortic regurgitation are so great and yet so difficult to anticipate that I would recommend the termination of pregnancy in all cases with a "Corrigan" pulse, and when there is a distinct forcible apex-beat outside the nipple line.

This brief outline does not deal with the condition of bodily weakness, as occurs in febrile and other exhausting conditions. These introduce factors which scarcely depend on the integrity of the heart.

OBSERVATIONS UPON THE CONDITION KNOWN AS D.A.H.*

By ROBERT H. TROTTER, M.D., Manch.,
Medical Officer in Charge of Medical Wards, Huddersfield War Hospital.

The ailment which has become familiar to those having charge of the medical wards in military hospitals as disordered action of the heart is not, of course, necessarily a war disease, similar cases being met with in civilian practice. At the same time, the conditions associated with active service have greatly expanded the number of cases, and this paper concerns itself only with the affection as it is found amongst soldiers, though, indeed, after the work of Lewis and his colleagues at Hampstead, there would appear to be little to add to our knowledge of heart conditions as occurring in military practice.

D.A.H. cannot be considered as a definite clinical entity. Disordered action of the heart is often an accompaniment of valvular disease and occurs frequently in hearts showing myocardial changes, and though V.D.H. is more readily dissociated from the cases classified as D.A.H. it is certain that a very considerable number of so-called D.A.H. patients have myocardial changes of greater or lesser extent. The name is open to many objections and may be interpreted so as to cover a multitude of cardiac sins, but as used in this contribution D.A.H. may be defined as a derangement of cardiac action independent of V.D.H., manifesting itself in arrhythmia, or increased rapidity of the heart's beat or both, with a deficient effort-response. Such a definition would be wide enough to include a number of cases with myocardial changes, which cannot be differentiated with certainty by ordinary, or, perhaps, any clinical methods.

Causation.

From the case-sheets of the Huddersfield War Hospital I have extracted 100 cases of D.A.H., and since in all cases passing through the medical wards a careful inquiry has been made into possible causative agencies a classification on that line can be ventured upon with some degree of accuracy.

By far the largest class is that in which a history of some infection can be traced, and 45 patients either gave such a history or were observed

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to develop D.A.H. as a sequela to an infection. Of these 45 cases 25 developed D.A.H. as a result of trench fever, and the frequency of this agency as a cause of cardiac disturbance led me to an investigation into the proportion of cases of this disease in which cardiac sequelæ were noted. During the last few months 219 cases of trench fever have passed through the wards of the Huddersfield War Hospital and of these 31 showed during the course of convalescence evidences of cardiac disturbance either in the form of a transient murmur or a more serious derangement resulting in D.A.H. Of course, trench fever, like D.A.H., is a somewhat indefinite term in the absence of a defined bacteriology, and several cases classified as trench fever ran a course indistinguishable clinically from subacute rheumatism in civil practice. But making all allowances for such sources of fallacy, there seems little doubt that trench fever, as a definite disease, is the most important etiological factor in cases of D.A.H. in soldiers. It is worthy of note that trench fever occurring in soldiers already suffering from V.D.H. does not necessarily produce D.A.H. Several such cases under my care recovered without any change in the cardiac condition.

Amongst other infections malaria holds an important place, and 11 cases were associated with the history of repeated malarial attacks. Probably there were in these patients definite myocardial changes but as far as possible cases with V.D.H. have been excluded throughout this investigation.

Three cases had a history of recent enteritis, 2 of recent influenza, 1 of recent tonsillitis, 2 of diphtheria several months before, and 1 of enteric fever.

In 27 cases a history was given of gradually increasing cardiac incompetence without a clearly marked onset, several having had a stay in hospital for D.A.H. on previous occasions. In this class were most of the neurasthenic cases. Seven others had had recent bronchitis, but probably these 7 belonged to the infection class and should be added to the 45 placed under this head. Three gave a history of acute rheumatism in childhood, though they had no murmurs and had been placed by medical boards in A category. Six had always been delicate, the delicacy usually taking the form of cardiac incompetency, though at previous examinations most of them had been assured that they had sound hearts. One of these patients I had had under observation intermittently since his youth as the subject of extrasystoles; when admitted to hospital the pulse, as felt by the finger, almost conveyed the impression of auricular fibrillation.

Only 2 cases became clear cases of exophthalmic goitre, a remarkable fact, since I should certainly have set down a far higher proportion of these patients as early cases of Grave's disease had they been in women at the same period of life. It is remarkable also that only 2 of the cases gave a history of antecedent injury, curiously enough in both cases contusion of the back.

The remaining 8 cases were convalescent from shell gas poisoning. So far as my limited experience goes there seems good ground for believing that one of the remote effects of the recent gas poisons is the production

of D.A.H., sometimes sufficiently serious to necessitate permanent invaliding. The absence of tobacco and alcohol from this etiological survey is worth notice.

Physical Signs and Symptoms.

Physical signs, as measured and detected by the ordinary clinical methods, are often strikingly absent. In most of the cases the apex was not markedly displaced, the area of cardiac dullness was not changed, and murmurs were absent. The great characteristic was the rise in the pulse-rate on trifling effort often to 150 or above, this rise being accompanied by distress in breathing and sometimes by pallor and faintness. Extrasystole cases form a class apart, but tracings after effort in patients without extrasystoles showed at times marked variation in the strength of the pulse waves, though tracings of the pulse of the same patient during rest had given no such indication. I have met with no cases of auricular flutter nor true paroxysmal tachycardia.

A particular type to which most of the cases of uncertain origin belong had coincident neurasthenic symptoms or, as Lieutenant-Colonel F. W. Burton-Fanning would say, were neurasthenics with cardiac symptoms; and in this class also were a few with a quite defined symptomatology, including gastric disturbances (sour eructations and even actual vomiting) accompanying the disordered heart action excited by slight effort. In one patient palpitation and regurgitation of sour fluid followed moderate effort but more strenuous exertion provoked actual vomiting.

Age Incidence.

There are obvious fallacies in the mere statement of the ages of 100 patients included in the investigation but I give the figures for what they are worth: Under 20, 4; 20 to 25, 48; 25 to 30, 20; 30 to 35, 12; 35 to 40, 10; 40 to 45, 6.

In cases arising from the graver infections and presumably having serious myocardial changes this is naturally not hopeful. Of the 11 cases with a history of malaria only 1 was discharged to duty; of the rest 4 were marked C.D., 4 were reclassified to C3 category, and 2 were discharged the service. Of the 25 cases having an origin in trench fever 14 were discharged to duty or C.D., 8 were placed in an employments category, and 3 were discharged the service. The most hopeful cases appear to be those who have suffered from the extrasystole for years and whose arrhythmia has been temporarily accentuated by the mental and physical wear and tear of active service. Cases of neurasthenic-dyspeptic type are very intractable. Many cases passed fit for duty relapse under further training and have subsequently to be invalided, and unless care is taken to estimate the response of the heart to effort the absence of physical signs may gravely mislead an examiner as to the cardiac competency of a sufferer from D.A.H.

Treatment.

It is, of course, essential to separate the cases with probable myocardial changes from those whose condition is due rather to extracardiac causes

and such a differentiation is not always easy. I have not found digitalis of any service; indeed drug treatment is disappointing. Bromide in the irritable neurasthenic cases I have found valuable and therapeutic custom supports the use of nux vomica. The usual drug treatment of dyspeptic conditions is especially futile in the gastric disturbances of D.A.H. and some of these cases are in danger of appendicectomy and post-operative traumatic neurasthenia. Diet has little influence and a full diet is generally desirable. Rest in bed is of limited value; it may well form an essential part of the early treatment, but an incompetent heart gains competence through rest only up to a certain point, and, in the neurasthenic types of D.A.H. especially, cardiac valetudinarianism is an ever present danger. As Murchison fed fevers, the modern cardiologists have saved heart cases from the torments of prolonged rest, and to keep these patients in bed for weeks as a routine treatment is reactionary therapeutics of the worst type. I have, however, seen patients reduced to helpless cardiac incompetence by prolonged rest in bed. Massage I have found of great value. Tobacco in moderation does not appear harmful.

In this short paper I cannot enter upon the question of the treatment of these cases by exercise, but prolonged residence in hospital is a disaster for most of them. Indeed I think they should, as a rule, be retained only long enough to estimate their capacity for further military service, a period usually about co-terminous with useful hospital treatment. Those cases obviously unfit should then be reclassified or discharged, and urged to find some form of work adapted to their capacities as soon as possible. Those likely to become fit for A category should be passed to a command depot.

I have to thank Lieutenant-Colonel W. L. W. Marshall, C.M.G., the commanding officer of the Huddersfield War Hospital, for permission to use the clinical records of the hospital for the purposes of this contribution.

UNNECESSARY OPERATIONS*

By GEORGE C. WILKINS, M.D., F.A.C.S., Manchester, N.H.

After graduating from the medical school and passing through his hospital service or services, the physician who has not elected to devote his time to laboratory work or administrative duties enters upon the active practice of his chosen profession.

He at once assumes certain obligations which, although implied, are none the less imperative. In his professional life, his contact with his patients is more intimate, more responsible, and demands more honesty of purpose than any other professional or commercial relationship between individuals. It is to be regretted that the principles, if not the words, of the Hippocratic oath, have not been dwelt upon in the medical school teachings, with more serious appreciation of their application to present-day conditions.

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In no phase of contact between individuals should the principles of the Golden Rule be more rigidly adhered to than in the dealings of a physician with his patient. The average patient consults a physician of ability, or a man to be trusted. Whether the physician is one of the leaders of his profession or a more humble worker in the ranks, there is only one attitude for him to assume in his treatment of the patient. He must not violate the confidence; he must give the best advice that within him lies, and in doing so he will be giving what all men desire with regard to themselves—honest dealing.

We are all human, and to be human means that we all make mistakes. A man may be pardoned for making a mistake, particularly if it is a mistake in judgment, but there is no pardon for the man who deliberately violates the confidence reposed in him, and wilfully subjects his patient to unnecessary and uncalled-for procedures. Sins of omission we may censure; but what can we say of the man who maliciously commits sins of commission in the medical or surgical treatment of his patient.

Please let it be understood that this paper is not intended as an arraignment of physicians and surgeons as a body; far from it, for I believe the large majority of men in our profession hold to the beliefs which I have mentioned, and endeavor, according to their lights, to live up to them, conscientiously and faithfully.

Unfortunately, there are men scattered through the profession who are constantly guided by two factors other than the consideration of the real good of their patients. These two factors are, an abnormal development of the commercial instinct, and an ambition to forge ahead, regardless of the means utilized.

The desire for money, and we may sometimes say, the need for money, is a well-known incentive to wrong-doing, and it is impossible for some men in our profession to resist an opportunity to take what they call "ready money" for rendering some service to a patient who has been falsely led to believe that such service is necessary.

Ambition is laudable, but ambition should not travel alone. Ambition, to be honestly successful, should be accompanied by a conscience. Ambition to accomplish a large amount of work, ambition to keep a hospital well filled, ambition to acquire the glory of many successes, have all led men in our profession away from the ideals to which they should cling, and when they have pursued this path for a certain length of time, God only can help them and their patients.

The practice of surgery opens up to these men a larger field of opportunity than can be obtained in other branches of medical practice, because the patient usually has no way of verifying the results of his operation. The patient is advised that he needs an operation; he implicitly trusts his surgeon, as all patients should, but at times this trustfulness, as observed by an uninterested onlooker, is quite pitiful to contemplate.

As an example, I will cite an incident occurring several years ago. A physician was called to a young married woman who gave a history of rather excessive flowing two weeks after a normal period. The physician,

after examination, advised an intro-abdominal pelvic operation, and the patient was moved to a hospital. The husband then decided to have a consultation and an older man was summoned. He found the pelvic organs in an absolutely normal condition and advised waiting. Two years later the patient was still in perfect health.

Another woman was advised that she needed an operation for a large cystic tumour of the ovary. She later consulted the surgeon on duty at a hospital in the same town. He found absolutely nothing abnormal in the pelvis.

Too often operations have been advised from the deductions of a snap diagnosis. This is always inexcusable, for if ever a patient deserves an adequate consideration of his case it is when his subsequent treatment contemplates the dangers of a surgical procedure, and we cannot be too often reminded that even minor operations may not be devoid of danger.

The mistakes resulting from a snap diagnosis can be illustrated by two cases, both young women, who consulted the same physician during the vacation absence of their own physicians. The first complained of backache of recent origin. She was examined vaginally at once and informed that she must have an operation on her uterus and tubes. After the return of her physician he examined her and found nothing abnormal with the pelvic organs, but did find her trouble to be due to muscle strain. Strapping her back with adhesive plaster cured the backache.

The other patient complained of a diarrhœa of two or three weeks duration. Without a physical examination, this physician advised an operation on the intestines, the exact nature of which the patient did not understand. When her physician returned, he cured her very shortly with bismuth and liberal doses of bromide.

Something might be said in regard to the inadvisability of too radical operations, when more conservative methods would produce equally good or better results. I have known of enthusiastic young operators removing the uterus in several young women for simple retroversion. This can be considered only an unnecessary procedure and absolutely unscientific.

Then, again, we have the hopeless cases—inoperable cancer and recurrences of cancers that are anatomically inoperable. Is it right or fair to open the abdomen of a woman who had a recurrence of cancer several years after a complete removal of the pelvic organs for cancer of the uterus? It is not justified, unless there is an intestinal obstruction to relieve or some such secondary complication.

One of my own cases had a recurrence about five years after primary operation. Understanding that she was to be operated on by another physician, I asked him what he expected to accomplish. He replied that he did not expect to accomplish anything, but that the patient insisted upon an operation, and he might as well have her money as anyone. Two other similar cases have been related to me by other physicians.

Let us now consider that small concealed portion of our anatomy hiding away in various positions alongside the cecum—the appendix—which causes trouble enough in itself without being blamed for every transient

non-febrile belly-ache that our many feet of intestines may be called upon to endure. Some surgeons seem to look upon this organ as a legitimate, or rather, illegitimate, means of enabling them to contend against the high cost of living.

Probably most of you, at some time or other, have been called upon to render judgment as to whether a certain patient has appendicitis or not, and, if so, to advise whether or not he should be operated upon. There is so much latitude of opinion in these cases that we should not judge another's diagnosis and advice harshly, and never hastily, but when in a given community a number of the able practitioners have case after case coming under their observation, where an incorrect diagnosis of appendicitis has been made by the same one, two or three surgeons, and these cases have been followed up for a considerable length of time without developing real symptoms of appendicitis, and are, perhaps, relieved by simple medication, then I do not think I am making too strong a statement when I say there is just cause for doubting the honesty of these men.

While, as I have said, the average patient accepts his surgeon's advice as honest, the cumulative evidence of a multiplicity of mistakes in the diagnosis of appendicitis, intentional or otherwise, has developed a fear in the minds of the laity that they may be hurried unnecessarily to the operating table.

It is perfectly obvious why more unnecessary operations are performed on the appendix than upon any other organ. In the first place, it is concealed before operation, and it may be concealed after operation. The patient is usually satisfied with the explanation that the appendix was considerably inflamed, that it had been taken just in time, or that it was found to be much worse than expected. Secondly, appendectomy in an uncomplicated case is an operation easily performed by anyone with but slight knowledge of surgery.

It is a recognized fact that the public will stand being fooled for a long time, but as a straw showing the direction of the wind, I will call your attention to the legislature of a Western State which has been considering seriously a bill (whether the bill has since passed or not, I do not know), providing that every appendix removed in the state shall be examined at the state laboratory, and if found normal, the patient is to be absolved from remunerating the surgeon. The originators of this bill may have had some experience, for in the penalty prescribed is found the true indication of its effectiveness.

This attitude which has developed in the public mind is entirely due to the activities of surgeons who have felt of the abdomen with the hand, but whose eyes have been focused on the fee.

While I think it is entirely unnecessary to cite to you cases illustrating the foregoing remarks, I will relate a story told me by a physician in the central part of this State, as it touches upon another phase of unnecessary operations, namely, surgical procedures requiring ether upon patients affected with active tubercular processes in the lungs. This should be done only after very careful consideration of the case, and with assurance that the patient will be benefited by such procedure.

A patient of this physician had an active tubercular process in both lungs, and with it a certain amount of stomach disturbance which the physician attributed to the tubercular condition. One day the patient took matters in his own hands and consulted a surgeon, who at once informed him that his appendix was the cause of his stomach trouble and should be removed. Not entirely satisfied with this the patient journeyed on to Boston and entered a large hospital for diagnosis and treatment. At this institution he was told there were no indications of appendicitis, and was sent back to the country.

Not infrequently we are asked, "Doctor, would you advise this operation if it were a member of your own family?" and while I do not feel that it would be at all practical to apply this test to all operations, I believe a certain amount of mental consideration along this line in the mind of the surgeon in all doubtful cases, if honestly weighed in the balance of judgment, would tend to eliminate many operations, where the real indication has been the fee or the mere desire to operate, and not the ultimate good of the patient.

A METHOD OF SKIN GRAFTING UNDER SEPTIC CONDITIONS*

By PAUL BOUSFIELD, M.R.C.S., L.R.C.P.,
Resident Surgeon, American Women's Hospital for Officers, London.

The difficulty which has arisen in connection with skin grafting is recognized by most military surgeons. In a considerable number of instances grafts have not grown on account of the generally septic conditions prevalent. Hitherto the first principle of successful skin grafting has been the most rigid asepsis, without using antiseptic solutions on the raw surface of the wound, since efficient antiseptic solutions have proved as fatal to the delicate grafts as the bacteria which they sought to eradicate. As a rule the only solution used by most surgeons has been normal saline. Another difficulty arises when a patient has multiple wounds and the wound to be grafted cannot therefore be retained in the best position possible, so that the grafts are sometimes pulled out of place in handling the dressings.

By the method here described I have been able to obtain successful grafts upon areas which, though "clean" to the naked eye, were still actually suppurating, dressings which had been left on for twenty-four hours showing a certain amount of pus, and even possessing an offensive odour. The following is a case which seemed less promising at the beginning than any other I have dealt with:

The patient had been wounded in the arm, the head, the back, and the left thigh. The wound in the arm had necessitated a guillotine amputation in France, which had remained septic; the wound in the thigh had been excised in France, and when I received the patient in England it consisted of an area on the posterior surface extending from two inches above the knee to the natal fold. The outer border reached to about one and a half

*This article appeared in "The British Medical Journal," December 29th, 1917.

inches in front of the great trochanter, and the inner border to within about one and a quarter inches of the rectum—an area of approximately seventy-two square inches, in which all the skin, superficial fascia and fat had been removed and had left the hamstring muscles exposed and still in a septic condition in very nearly their whole length. On first viewing this leg it seemed doubtful whether it could be saved, especially as the wound was of such an irregular shape that a plastic operation by means of which parallel strips of skin might be brought over portions of the exposed surface was not possible.

For ten days the wound was dressed on every third day with pure sterilized liquid paraffin containing one drachm of ordinary bipp to the ounce. At the end of this period the wound was quite clean at the edges and had granulated well over the muscles: a skin graft under the following conditions was decided upon in spite of the fact that dressings were still somewhat offensive:

The edges of the wound and the skin of the buttocks, whence the graft was to be taken were sterilized with iodine: the surface of the wound itself was sprayed with zoel, which the manufacturers inform me is made by mixing 1 lb. of 78 per cent. electrolytic caustic soda ground to pass through a sieve with ten holes to the linear inch, with 1½ lbs. of No. 20 pure salt; to this is added 5¼ lbs. of granulated borax and the whole well shaken together. Combination of the caustic soda with the borax takes place rapidly, resulting in a mixture (zoel) containing 19½ per cent. sodium chloride, 3 to 4 per cent. of sodium diborate, and 76½ to 77½ per cent. of sodium monoborate. I then raised small portions of the skin of the buttocks with forceps and dissected off portions about a quarter of an inch in diameter and one-sixteenth of an inch thick in the centre. I passed a single stitch through each graft and through the granulation tissue, suturing each graft in careful apposition: in all I planted about thirty-five grafts in this way. Again I sprayed with an atomizer a solution of zoel upon the grafted wound, and then dressed the whole with gauze soaked in sterilized paraffin, so that the dressing should not dry and tear off the grafts or cause bleeding when it was changed.

The paraffin dressing was left on for forty-eight hours without removal, but was moistened from time to time with fresh paraffin in order to prevent it from sticking. At this period the dressing had begun to smell, and the edges of the dressing had become green. I therefore redressed the wound, and sprayed it again with a 2 per cent. solution of zoel, afterwards again placing over the surface gauze soaked in paraffin. This procedure I repeated from time to time, on the average every twenty-four hours, and at the end of twelve days every graft had not only taken but had spread to more than twice its original area.

I have used this method on other cases of which that quoted is typical, and the success of the technique I ascribe to three outstanding conditions:

1. The fixing by means of sutures of the grafts, so that, although in an awkward position, they cannot be removed when the wound is dressed.

2. The use of liquid paraffin as a medium for the dressing, which prevents any adhesion, and hence movements of the grafts.

3. The use of an antiseptic spray which is efficient in its germicidal powers, and yet non-irritant and non-poisonous to such delicate tissues as skin grafts; this last is, without doubt, the most important of the three.

TRENCH FOOT*

The present view of trench foot has broadened to such an extent that it has become somewhat difficult to gain an entirely clear idea of the relation between the various phenomena coming under this head. In early classifications, most writers were disposed to consider it as a form of frostbite. For example, Rathery and Bauzil in "*Paris Mèdicale*" of March 31, 1917, apparently regard it in this light, and treat the symptoms accordingly, although their method is new. But as more facts have been collected, and the conclusions are now published, considerable doubt has sprung up respecting many points in the etiology of the cases reported from the various fronts. One fact clearly emerges from the discussion—cold or frost alone is not the essential factor. To produce trench foot cold and wet must be combined, and it is becoming fairly certain that they are associated in most cases with constitutional elements.

In one of the most recent accounts (*Gazetta degli Ospedali,* October 21, 1917) Tassone states that, in addition to frost and wet, the immobility of the limbs is the most important factor. Similarly, Borchard (*Zeitschrift für Chirurgie,* 1916, xliii, p. 142) notes that resting the legs is favourable to the occurrence of "frost-gangrene," implying that the inactive circulation is a casual influence. This explains why the feet are attacked first, and the shins next, the feet being furthest from the heart. On the other hand, Tassone points out that soldiers who keep up a vigorous circulation by marching and other muscular exertion usually have sound, healthy feet, and escape not only œdema and gangrene, but also the milder forms of frostbite. The evil tendency is aggravated by the footgear of some armies. British surgeons frequently complain that the wearing of puttees and tight-fitting boots predisposes to trench feet by constricting the circulation. The puttee appears to be particularly objectionable, as it soaks up water which freezes on the legs. In spite of this obvious fault, puttees and leggings, which have the same defects, are still in use. It may be noted in this connection that the prevalence of trench foot has an important bearing, not only on the question of footgear, but also on army discipline in general. Among nations, the Germans and Bulgarians, with their heavy boots and woolen stockings, have suffered relatively little, whilst the Russians, owing to carelessness and shortage of leather, have been in the worst plight.

Since trench foot occurs in healthy, well-clad men, some authors have sought to connect it with constitutional causes. Thus Lieutenant Longridge (*The Lancet,* 1917, Vol. i, p. 62) observes that the blisters and sores are like

*From "The Boston Medical and Surgical Journal," March 14th, 1918.

the trophic sores of diseases of the nervous system, and he deduces a central origin. He adopts the thesis that trench foot is due to "leakage of neuro-electricity." This seems a rather fantastic effort to find a cause, but it may be readily admitted that nervous inhibition plays an important part. Some evidence in favour of this view is supplied by Ellis (*British Medical Journal*, 1917, Vol. i, p. 573). He noted the curative effects of nitroglycerine through dilatation of the peripheral vessels.

More recently, Raymond and Parisot have published a series of observations which tends to show that a mycelium is the cause of trench foot. They isolated an organism of this species from the water of the trenches (*Société medicale des hôpitaux de Paris*, October, 1917). The mode of action is described briefly as follows: Soldiers stand for hours in water; their shoes and stockings become soaked, and the mycelium gradually penetrates the skin and tissues. Their method of treatment, which has the approval of the highest French authorities, consists in gentle cleaning of the skin with boiled water, in which soap is dissolved, and the application of compresses of sterile gauze soaked in a solution of powdered camphor and sodium borate. Care is taken not to break the skin or the blisters, but in cases of abrasion, a powder of camphor, sodium borate, betanaphthol and eucalyptus is used. In most cases the infection is thoroughly eradicated by this treatment. It is applicable to the cases of frost-bite, and owes much of its special merit to its rational character and avoidance of the older methods of rubbing with ice or snow, incision of the blisters, and immobility of the feet. It is better to use tepid water, gentle massage and passive hyperemia.

The most valuable part of this study relates to treatment and problems of gangrenous change. Trench foot exists in at least four stages—the neuritic, producing pain; the œdematous without discolouration; the œdematous with blisters; and the gangrenous, partial or circumscribed, with redness. Captain A. D. Haydon describes, in addition, septic cases, with more or less constitutional disturbance, with fever, and still graver cases with cellulitis and purulent infection extending up from the dorsum on the foot (tendo Achillis) to the shin. Such cases are complex, in which it is difficult to disentangle the etiological elements. They must be treated by means of vaccines, antistreptococcic serum, injections of antiseptics into the veins. For the moist gangrene the best remedy is iodoform dissolved in ether, one part in ten. Spreading gangrenous cellulitis is noted in the worst cases—a condition which he treats by free incisions, drainage, and sometimes amputation.

Trench foot accounts for so much preventable suffering and disability that we should be less than human if we did not point out two very obvious criticisms. Most of the surgeons abroad agree that waterproof shoes and warm woolen stockings, over which flannel is drawn in winter, are prophylactics. Some writers suggest rubbing the feet with grease. So far as we have observed, much attention is paid to the shape of the soldier's feet, to flat foot, and the style of shoes, but the essential things are too often overlooked.

CANADIAN ARMY MEDICAL NEWS

A standing Medical Board for Officers has been instituted at Military Headquarters, Toronto, comprised as follows: Col. Acheson, President, Lieut.-Col. Hillery, Capt. S. R. D. Hewitt.

Lieut.-Col. Henry Bascom has taken charge of the Medical Division of the 2nd C.O.R., at Oshawa, Ont.

Capt. C. J. Milner and Lieut. G. D. McTaggart have been appointed to C.A.M.C., Training Depot No. 2.

Capt. Overholt, late of the R.A.M.C., has been appointed to the Military Hospital, Burlington.

Capts. A. R. Riddell, V. F. Stock, M.C., G. M. Dale and R. I. Harris, M.C., following two years of service overseas in the R.A.M.C., have joined the C.A.M.C. in hospital positions in Toronto.

Capt. G. A. McLarty, D.S.O., and Capt. T. C. Routley, having returned from two years' service overseas, have been appointed to the Standing Medical Board in Toronto.

Capt. Seaton and Capt. Christian, M.C., late of the R.A.M.C., have been appointed to Medical Board positions in the C.A.M.C. in Toronto.

Military District No. 2 has taken many doctors on the strength during recent months. The various hospitals, medical boards and depots in the district require many officers in the C.A.M.C. to keep pace with the work demanded of the organization.

"WHEN DUTY CALLS, OR DANGER. . ."

Self-praise may be no commendation, but the medical profession of Canada has just reason to be proud of its record in connection with the present world war.

When in the summer of 1914, as from the clouds the clarion call for an army sounded throughout the Dominion, no more whole-hearted response was to be found than from the medical profession. And as our army grew from more to more, practitioners eagerly came forward to take their places of usefulness amongst our men.

In the Roll of Service, just published by the University of Toronto, it is most gratifying to note that the medical profession ranks very high in representation from among the graduates, no fewer than six hundred and eighty-five having answered the call of King and Country.

We take the liberty of appending below a list of those who have made the supreme sacrifice, the most that man could give:

Bentley, B. B., C.A.M.C. Major.
Bowlby, G. H., C.A.M.C. Capt.
Brodie, T. G., C.A.M.C. Capt.
Chalmers, A. P., C.A.M.C. Capt.
Cleghorn, A. C. M., R.A.M.C. Capt.
Cullum, J. A., C.A.M.C. Capt., M.C. (Bar), Croix de Guerre.
Evans, W. L., R.A.M.C. Lieut.
Gillespie, P. A., R.A.M.C. Major.
Gliddon, G. C., Canadian Infantry Capt.
Gordon, A. R., C.A.M.C. Lieut.-Col.
Henderson, J., R.A.M.C. Capt.
Henderson, W., R.A.M.C. Capt.
Home, R., R.A.M.C. Capt.
Horkins, R., R.A.M.C. Capt.
Jones, H., C.A.M.C. Major.
McKenzie, W. W., C.A.M.C. Capt.
McKeough, W. S., Can. Infantry Major.
McLean, D. B., R.A.M.C. Capt.
McVicker, E. H., R.A.M.C. Lieut.
Monkman, H. S., C.M.R. Capt.
Paterson, M. H., R.A.M.C. Capt., M.C.
Peacock, T. W. P., C.A.M.C. Lieut.
Stirrett, E. Z., C.A.M.C. Lieut.
Tanner, A. W., C.A.M.C. Lieut.-Col.
Thompson, C. E., C.A.M.C. Lieut.
Walker, S. A., R.A.M.C. Lieut.
Yellowlees, N. J. L., C.A.M.C. Capt.

HONOUR TO WHOM HONOUR IS DUE

The following have been honoured for service as shown by the initials against their names:

Armstrong, G. W., R.A.M.C. Capt., D.S.O.
Argue, H. H., C.A.M.C. Capt., M.C.
Armstrong, Arthur C., C.A.M.C. Lieut., M.C.
Barrie, Howard G., R.A.M.C. Col., Order of St. Saba (Serbia), and Red Cross Medal.
Bell, Thomas H., C.A.M.C. Capt., M.C.
Brisco, C. A., R.A.M.C. Capt., M.C.
Buck, H., C.A.M.C. Capt., M.C.
Burnham, H. H., C.A.M.C. Capt., M.M.
Carr, L. A., R.A.M.C. Capt., M.C.
Christian, J. R. L., R.A.M.C. Capt., M.C.
Cook, K. E., C.A.M.C. Capt., M.C.
Cosbie, W. G., C.A.M.C. Capt., M.C.
Day, O. J., R.A.M.C. Capt., M.C. (Bar).
Fotheringham, J. T., C.A.M.C. Col., C.M.G.
Fraser, D. T., R.A.M.C. Capt., M.C.
Galbraith, C. T., R.A.M.C. Capt., M.C.
Gilchrist, A. J., R.A.M.C. Capt., M.C.
Greer, G. G., C.A.M.C. Major, M.C.
Hamilton, H. P., R.A.M.C. Capt.,M.C.
Hardy, E. B., C.A.M.C. Lt.-Col., D.S.O.
Harris, R. I., R.A.M.C. Capt., M.C. (Bar).
Hart, H., C.A.M.C. Capt., M.C.
Hassard, F. R., R.A.M.C. Capt., M.C.
Haywood, A. K., C.A.M.C. Major, M.C.
Hendry, W. B., C.A.M.C. Lt.-Col., D.S.O.
Jeffrey, E. S., C.A.M.C. Major, M.C.
Jeffs, H. B., C.A.M.C. Capt., M.C.
Johnston, A. C., R.A.M.C. Capt., M.C.
Kidd, G. C., C.A.M.C. Capt., M.C.
McClennahan, R. R., C.A.M.C. Capt., M.C.
McCrimmon, K. H., Can. Inf. Capt., D.S.O.
McCulloch, A. E., R.A.M.C. Capt., Croix de Guerre.
McLarty, G. A., R.A.M.C. Capt., D.S.O.
McGibbon, P., R.A.M.C. Lieut., M.C.
McKillip, T. H., C.A.M.C. Major, D.S.O.
McPherson, D. W., C.A.M.C. Col., C.M.G.
Manion, R. J., C.A.M.C. Capt., M.C.
Moorhouse, V. H. K., C.A.M.C. Capt., M.C.
Mossman, J. K., C.A.M.C. Capt., Cross of St. Saba (Serbia).
Naismith, A. G., R.A.M.C. Capt., M.C.
Nasmith, G. G., C.A.M.C. Col., C.M.G.
Nicholson, W. F., C.A.M.C. Capt., M.C.
Shields, H. J., C.A.M.C. Capt., Order of St. Saba (Serbia).
Stock, V. F., R.A.M.C. Capt., M.C.
Sutherland, C. G., R.A.M.C. Capt., M.C.
Sutton, A. E., R.A.M.C. Capt., M.C.
Taylor, A. H., C.A.M.C. Capt., M.C.
Walker, F. M., R.A.M.C. Capt., M.C.
Warren, D. A., R.A.M.C. Capt., M.C.
Whittemore, W. L., C.A.M.C. Capt., M.C.
Wynne, C. S., R.A.M.C. Capt., M.C.
Young, C. R., R.A.M.C. Capt., M.C. (Bar).

The University of Toronto is to be congratulated for compiling a record of service, a record which in its entirety stands true to the traditions of the Alma Mater.

Gladly would we receive and give recognition to similar lists from the other Universities of the Dominion.

CASUALTIES IN THE MEDICAL SERVICES

Lieutenant-Colonel J. McCrae, who died in France on January 28 of pneumonia at the age of 45 years, was born at Guelph, Canada, second son of Lieutenant-Colonel David McCrae. Educated at Guelph and Toronto University, he graduated in medicine in 1898, and was appointed in the following year Governors' Fellow in pathology at McGill University, where he became in succession lecturer in pathology and medicine. His clinical experience was obtained from his position as assistant physician to the Royal Victoria Hospital and physician to the Alexandra Hospital, Montreal, and his deep acquaintance with both sides of medicine made him a valued writer in Osler and McCrae's "*System*" and in association with Professor J. G. Adami on pathology. At the outbreak of war he left Canada in September, 1914, with the Canadian Field Artillery, becoming in the following summer second in command of the McGill Hospital Unit. He had just been appointed to the command of a Canadian General Hospital, and at the same time a consulting physician with the British Expeditionary Forces, when he fell a victim to a sharp attack of pneumonia, which proved fatal on the sixth day. A distinguished pathologist, an acute and accurate clinical physician, an administrator and no mean poet, Colonel McCrae leaves behind him an irreplaceable gap in a large circle of friends. A memorial service for him was held at the Royal Victoria College, Montreal, on February 5, Sir William Peterson, Principal of McGill University, delivering an address.

Captain J. F. Palling, who died on active service on January 31, was 55 years of age, and born in Simcoe County, Ontario. He graduated in 1888 at Trinity College, Toronto (now merged in the University of Toronto), and spent the greater part of his life in general practice at Barrie, Ontario. In February, 1916, when the Canadian Infantry Battalion was raised, he joined it as medical officer, accompanying it overseas last May. After being for a time with the Reserve Brigade, he became attached to the Canadian Special Red Cross Hospital at Buxton. Symptoms of cerebral thrombosis showed themselves in November last, and he was admitted to the Queen Alexandra Military Hospital, Millbank, where he died two months later. His widow survives him.

Major W. L. Maclean, who was recently killed on active service at the age of 32 years, was a native of McLeod, Alta., and second son of the Rev. J. Maclean, M.A., Ph.D. After taking the first year of an Arts course at the University of Manitoba, his father was transferred to Halifax, N.S., and he then entered the Dalhousie Medical School, graduating in 1908. Joining the C.A.M.C. in December, 1914, in the following February he went overseas as medical officer to a Canadian Artillery Brigade, and after a few weeks spent in England was sent to France to a Canadian Stationary Hospital, was transferred later to No. 1 Canadian General Hospital, and at

the beginning of last year to a casualty clearing station. This hospital had recently been shelled, necessitating its withdrawal to a point further back. It was during this period, while temporarily attached to a British casualty clearing station, that he had just finished operating and was proceeding to the wards at 7 o'clock in the evening, when bombs were dropped upon the hospital from an aeroplane, and he received injuries from which he died within a few hours. One of Major Maclean's senior officers writes: "By his death Canada has lost one who, despite his youth, had accomplished remarkable work. By sheer capacity he rose to be head of the surgical service of a well-known casualty clearing station, and there he worked unremittingly. The pity is that no adequate record remains of his series of operations, more particularly of his results with grave abdominal wounds at the front, results which were very remarkable." Major Maclean leaves a widow, but no children.

Captain Kenneth Angus MacCuish died in a French hospital of wounds received while on duty, aged 43. He was born at St. Peters, Nova Scotia, and graduated at Dalhousie University, Halifax, in 1903. Some years later he went to Edinburgh for post-graduate work. He was in practice at Glace Bay, Nova Scotia. He went overseas with the hospital unit supplied by the St. Francis Xavier University, Antigonish, Nova Scotia, and after serving for a short time in a hospital in England proceeded to France.

Captain A. M. Fisher, who has been killed in action, graduated at McGill University in 1914, and was attached to the surgical staff of the Royal Victoria Hospital, Montreal. He was one of our Canadian surgeons chosen to join the British forces in the summer of 1915, and was appointed medical officer on a transport running between England and Alexandria. The vessel was torpedoed, but Captain Fisher was saved, although he lost all his personal belongings. Some months after he was invalided to England suffering from an intestinal affection and underwent a serious operation, after which he returned to Canada to recuperate. The following autumn he returned to England and subsequently to France.

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NEWS ITEMS

A CANADIAN MEDICAL WEEK IN HAMILTON

With the object of conserving the energies of the medical profession of this country in the interests of other necessary war business, the various medical bodies in Canada have agreed to co-operate in arranging for a joint Medical Week.

This praiseworthy effort calls for the interest and assistance of the medical profession of the whole of Canada.

Many topics of vital interest and national importance are to be considered, the programme being most comprehensive in its outline. The week promises to be one of keen interest and enlightenment. A large percentage of the practitioners of the Dominion should avail themselves of this unique opportunity of getting together.

Remember the time and place—May 27 to June 1, 1918, at Hamilton.

Be on hand. Your interest—the interest of our country calls for your co-operation.

FROM MONTREAL

The Carnegie Corporation has voted a million dollars to McGill University in recognition of her devotion and self-sacrifice during the war.

Colonel H. S. Birkett, O.C. No. 3 Canadian General Hospital (McGill), has arrived home. His future movements are as yet indefinite, but it is to be hoped that the Canadian Government will make use of his valuable experience obtained in France for the benefit of the returned soldier.

Lieutenant-Colonel Philip Burnett, D.S.O., who went overseas with No. 16 Canadian Field Ambulance in 1915, is now O.C. at the Canadian Red Cross Special Hospital at Buxton, England.

Colonel E. C. Hart has been invested at Buckingham Palace with Commandership in the Order of St. Michael and St. George.

Captain George Shanks is now with the Royal Army Medical Corps in Mesopotamia.

Colonel J. G. Adami has completed the first volume of his history of the Canadian Army Medical Corps, and the volume is to be published shortly.

The Montreal General Hospital, one of the best-known charitable institutions in Montreal, and perhaps in the entire Dominion, commenced a campaign for $300.000 on March 5. Over $250,000 had been collected at the end of the second day. Whilst it is too soon at date of writing to publish total, it is to be trusted that more than the amount desired was obtained in order to further the far-reaching efforts of this institution.

EDITOR'S NOTES

It has been said: "The practice of medicine is ninety per cent. art and ten per cent. science." In the minds of many this ratio may seem disproportionate. Perhaps it is; but if ever this enunciation were applicable it is to-day.

Never in modern history has the human fabric been so tried and tested as during the past three and a half years. There may have been not a few amongst us during the early days of this titanic world struggle who felt but little personal interest in the conflict. Time has wrought its changes. To-day none can feel that the tide has not brought its influences to the human soul—a stern realization of grief and sorrow, suffering and privation, measuring and being measured.

And what is its application to the Medical Profession? To those who have "gone over" the grim realities of war have been revealed. To those who have carried on at home not only has the havoc of battle come, but a changed world in which to labour—a people standing-to, calm and ready, willing to sacrifice and be sacrificed—a nation pulsating at a higher tension, working under greater nerve strain than ever before.

Truly then, in dealing with the ills of our people, the balance of treatment swings further towards Psycho-Analysis—a science if you will, but an art in its application.

Many members of the Medical Profession in Canada have given three years and more of service during the present world war. Many have remained at home because they felt they were not needed. A period "over there" would be appreciated. Why not equalize as far as possible, allowing men in civilian life to replace some of the originals. The profession as a whole would doubtless welcome such a scheme.

"Honesty is the best policy." This time-worn axiom is one which will never become hackneyed because of the simple and commendable truth implied.

In our reviews we have endeavoured to point out honestly and comprehensively some of the salient features which make these publications worthy of presentation to the Medical Profession.

We know full well that the practitioner of to-day is eager to acquire medical literature which is up-to-date and in keeping with the rapid advancements and achievements of modern science; literature which is instructive and helpful to him in his professional life.

It is therefore with no small element of satisfaction that we call to your attention the reviews in this issue, realizing that in so doing, we are performing a service which will be appreciated.

BOOK REVIEWS

CONFESSIO MEDICI

"Open Confession is Good for the Soul."

Robert Louis Stevenson has said: "The physician is the flower (such as it is) of our civilization; and when that stage of man is done with, and only remembered to be marvelled at in history, he will be thought to have shared as little as any in the defects of the period, and most notably exhibited the virtues of the race."

With a literary style of singular charm, a sincerity of purpose and a brilliant and genial reasoning, Stephen Paget, in *[1]"Confessio Medici," has presented to us a volume which delightfully portrays Stevenson's theme. He says in part:

"If a doctor's life may not be a divine vocation—then no life is a vocation and nothing is divine.

"Practice is:

—The man himself.

—The skill of his hands.

—The judgment of his reason on the expert evidence of his senses.

—The quiet selection and watchful use of the right set of facts. It cannot be taken over like a theatre ticket or a share in a railway."

"There is not one profession that we need envy, for there is none that gives to its students such a good introduction to things as they are."

"There are men and women, but not a great number, created for the service of medicine, who were called to be doctors when they were not yet called to be babies."

With a broad outlook on life, a happy humour and a keen intellect which dissects and co-relates facts, the author has presented to the profession a volume which cannot fail to convey much interest and enlightenment to the reader.

LORD LISTER

Many appreciations of the late Lord Lister have been published, but it remained for his nephew, Sir Rickman John Godlee, to give us a really great *[2]Biography. Quoting from *The Lancet* of December 1, 1917, " 'A scientist's public life lies in the work that is his,' were Lord Lister's words in regard to the form in which posterity should think of him. And of no one could this be more truly said than of him who made modern surgery possible; who, in

*[1]"**Confessio Medici,**" by **Stephen Paget, F.R.C.S.**, etc.; 158 pages. Price postpaid, **$1.50 net.**—Toronto: The Macmillan Co. of Canada, Ltd. See page 48.

*[2]"**Lord Lister,**" by **Sir Rickman John Godlee, Bt., K.C.V.O., M.S., F.R.C.S.**; 676 pages, 23 illustrations. **Subscription price, $7.00; cash price, $6.00**; delivery charges prepaid in each case.—Toronto: The Macmillan Co. of Canada, Ltd. See page 48.

Professor Howard Marsh's words as Bradshaw Lecturer, opened the gates of mercy on mankind."

True to the courage of his convictions, with unswerving determination and persistent tenacity, ever facing overwhelming obstacles and derisions, the renowned scientist toiled on, finally reaching the goal which decreed him not only one of the world's outstanding discoverers, but also one of the greatest benefactors of the human race. His name will ever be revered and honoured by all who recognize the wonderful significance of his work.

As Lister's nephew, who was intimately associated with him in his surgical and experimental work, Sir Rickman Godlee claims certain disabilities as a biographer, but the reader will not be inclined to admit the drawbacks, and will have no difficulty in forming his own judgment in places where the biographer modestly leaves facts to speak for themselves. The medical profession, as well as a wider public, owes Sir Rickman Godlee a debt of gratitude in having provided them with an authoritative biography.

Brought up in a Quaker household, guided by influences which ever showed a loving sympathy towards one's neighbour, Lister's early life was spent amidst refreshing country surroundings, reading Latin authors and touching the fringes of science under the tutorship of his father. At an early age he showed a disposition to study surgery, and bent his efforts in that direction.

After attending school at Tottenham, he entered University College in 1844, where he spent the ensuing nine years in taking Arts as well as a medical degree, a groundwork Lister always recommended to students where circumstances would permit. In 1853 he went to Edinburgh as house surgeon to Syme, under whose careful guidance he spent some of the most critical years of his brilliant career.

It was not until 1877 that Lister accepted a call to King's College, London, leaving a host of enthusiastic followers, in order that he might carry on his mission in life in a new and wider sphere. His reception in London was most chilly, and to a less serene character might have been depressing beyond endurance. For years his classes were very small, his adherents few indeed, but possessed of all the qualities which turn cold scepticism to earnest conviction, Lister never faltered, and in time prejudice passed away and the London profession fully accepted the man and his message. The world soon learned of the great man and paid him tribute. Honours both at home and from abroad were showered upon him, culminating in a peerage in 1907.

The British Medical Journal says: "Successful biography depends on two essentials, a fit subject and a proper manner or style in the representation; that Lord Lister is one of the great figures in the history of the healing art there can be no question, and that Sir Rickman Godlee has provided a memoir that will live as one of the great biographies, every competent critic must cordially agree."

The Times: "Sir Rickman Godlee has written the full, authoritative and final history of Lister's life and work as it ought to be written with careful judgment and true insight. He is the only man who could have done it so well."

CLINICAL CARDIOLOGY

In the many recent books on cardiac disease, dealing chiefly with polygraphy, electrocardiography and orthodiascopy, there has been much confusion regarding the proportionate value of graphic methods, with the result that undue emphasis has been placed upon purely instrumental and technical considerations. *Dr. Neuhof has therefore included in his book the graphic as well as the usual bedside methods, while writing from the clinician's rather than the cardiologist's standpoint.

The opening chapters are devoted to a description of instrumental and graphic methods in the study and examination of normal and abnormal rhythms and of normal and abnormal silhouettes. From a study of these chapters, the physician is enabled to discuss the relation and application of instrumental methods to clinical cardiology and bedside examination.

Subsequent chapters are devoted to the purely clinical side of cardiology. Careful consideration is given to the important subjects of the pathology, etiology, diagnosis, prognosis and therapy of endocarditis, myocarditis and cardiosclerosis. Questions occurring in everyday practice with reference to diet, exercise and general management of heart disease are fully dealt with. There are special chapters on precordial pains, blood-pressure and the heart in pneumonia.

Features deserving of special commendation:

—Clear, concise detail without padding;

—Correlation between the graphic and clinical;

—Comprehensive and practical reasoning;

—Therapy not suggestive but didactic;

—Excellent plates and illustrations.

To the practitioner who requires a reference book, not too-highly specialized, written with a true perspective towards the practical and clinical aspects of the cardio-vascular system, this monograph will undoubtedly appeal.

THE TREATMENT OF INFECTED WOUNDS—CARREL'S METHOD

It is well known that nearly all wounds resulting from explosions of shells, torpedoes and bombs are septic. That the septic character of wounds is disastrous is also well known.

In the therapeutics of septic wounds, we may attribute the stagnation we have experienced to the lack of precision in clinical research. Actuated by this thought in 1914, when the hospitals of France were reeking with pus, Carrel, Dakin and Dehelly instituted experimental investigations along scientific lines. Thanks to their findings and skillful applications, the treatment of septic wounds has been revolutionized. It has been shown that infection can be checked even after suppuration has become established, and that all

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*"**Clinical Cardiology,**" by **Selian Neuhof, B.S., M.D.**, Visiting Physician, Central and Neurological Hospital, Adjunct Attending Physician, Lebanon Hospital, New York; 302 pages, 247 illustrations, including 20 plates. **Price postpaid, $4.00 net.**—Toronto: The Macmillan Co. of Canada, Ltd. See page 48.

infected wounds may be brought more or less under control by chemiotherapy. Their work met with considerable opposition in its infancy. As in the days of Lister, many doubting critics were outspokenly unbelievers: but seeing is believing, and so startling have been the results of the "Carrel Method," that to-day not only the surgical profession, but a great army of men who have been successfully treated, bear testimony to its efficacy.

Surgeon-General Sir Anthony Bowlby, Consulting Surgeon to the British Armies in France, in referring to the work, says in part: "Whenever it has been thoroughly carried out, it has accomplished all that is claimed for it by its authors, and it has been of inestimable benefit to thousands of patients. It has also renewed faith in antiseptic methods. The whole practice of war surgery has been greatly improved by Dr. Carrel's confidence that antiseptic treatment can sterilize a septic wound. It has done the greatest good by setting a high standard of thorough excision and surgical cleanliness. The lesson taught was very necessary."

"The treatise published by *Carrel and Dehelly will be found to convey in the clearest manner the knowledge of those details which have been so carefully elaborated by the patient work of two years' experience. To the workers of surgery this book will prove of the utmost practical value, and I feel certain that it will be of the greatest value of all to the patients themselves."

GONORRHŒA AND ITS COMPLICATIONS

In recent years a greater interest has been taken in venereal diseases, and it would seem as if the days in which it was permissible to treat these maladies with contempt and in a careless manner belonged to the past.

It is gratifying to find leading journals devoting their columns occasionally to important discussions and advances in venereology.

Owing to the slow but sure havoc which it causes in the individual, and to society, gonorrhœa deserves the fullest attention of medical men and of public bodies.

Our therapy is nowadays so perfect that it is not permissible for a medical man to allow a case of gonorrhœal urethritis to go on without curing it. Modern science has made such conquests that one can say without exaggerating that there is no inflammation of the urethra which cannot be cured completely by appropriate treatment. But it should not be forgotten that this result is only obtained by means of prolonged and painstaking observations, and that urethroscopy alone enables us to diagnose the local lesions with accuracy, and to apply the sovereign remedy correctly. Without the control of his eye, it is impossible for the medical man to select the best and the most efficacious treatment.

It does not follow from the fact that urethroscopy is a wonderful and indispensable means of diagnosis in expert hands that it is a universal

*"**The Treatment of Infected Wounds,**" by **Carrel and Dehelly**, translated by Dr. Herbert Child, with an Introduction by Sir Anthony Bowlby, Surgeon-General, A.M.C.: 238 pages, 97 illustrations, including 6 plates. **Price postpaid, $1.75 net.**—London: Balliere, Tindall and Cox. See page 48.

panacea for inflamed urethrae. The truth is far from this, and hence it is necessary to study the treatment of urethral inflammation in all its details.

*"Gonorrhœa and Its Complications," a text-book by Luys, with an English Translation by Foerster, fills up a gap in our literature. The treatise has already made its reputation and contains all the information one could desire.

An experience of twelve years devoted to the study of these interesting diseases has convinced the author of the absolute efficiency of certain remedies, and of their superiority over others which fortunately have become obsolete nowadays. The author has, therefore, avoided a tiresome enumeration of the old methods which prolonged the urethritis instead of curing it, and given a very full description of our modern accurate therapeutic measures which lead to a certain cure.

This book contains twelve chapters.

The history of gonorrhœa the author considers of interest. It shows the evolution of our knowledge of the etiology and of the therapy of the disease; how gradually in the course of centuries a state of chaos and darkness was replaced by accuracy and clearness.

The following chapters deal with the etiology of gonorrhœa, and give a full description of the gonococcus, the usual cause of the malady. They also point out its dangers, and refer to the social struggle against gonorrhœa, and to certain legal questions connected with it.

As the gonococcus is not the only micro-organism capable of producing an inflammation of the urethra, a further chapter is devoted to these non-gonococcal urethrites.

The basis of all rational treatment is the pathological finding, and thus a special chapter deals with the pathology of gonorrhœa.

In the next chapter the clinical picture and the symptomatology are described.

The diagnosis of urethral inflammation has received special attention, as it guides the treatment, and as the success of the latter depends on the accuracy and completeness of the former.

The following chapter gives a full description of urethroscopy, and completes the previous chapter. Without this powerful means of diagnosis, the localizations of chronic urethritis cannot be made out, and therefore remain untreated.

The numerous complications of gonorrhœa are then reviewed, a special chapter being devoted to gonorrhœa in women and children.

The last two chapters, which are the most important ones, give a full description of the treatment of acute and of chronic gonorrhœa. They contain the methods which have stood the tests, and lead to certain cure if properly applied.

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*"**Gonorrhœa and Its Complications.**" by **Dr. Georges Luys,** late Assistant to the Urological Clinique Hospital Lariboisiere, Paris, translated and edited by Arthur Foerster, Capt. R.A.M.C., M.R.C.S., L.R.C.P.; 386 pages, 200 illustrations and 3 coloured plates. **Subscription price, $7.00; cash price, $6.00,** delivery charges prepaid in each case.—London: Balliere, Tindall and Cox. See page 48.

DESTRUCTION OF PATHOLOGICAL TISSUES BY HEAT

Of all the physical means employed in the destruction of pathological tissues, the only certain method is that of heat.

The older methods for the application of heat had this disadvantage, that tissues could be destroyed by carbonization or severed with a red-hot iron; but the heat never penetrated to a depth of more than two or three millimetres from the carbonized surface. We shall see that the employment of high-frequency currents of low tension causes a complete change in the surgical treatment of certain disorders, since it enables us to bring about the penetration to a great depth of the heat produced by the transformation of alternating electric vibrations.

Aerocauterization, or cauterization by superheated air, consists in projecting upon pathelogical tissues a current of air heated to a temperature of 600 to 700 degrees Centigrade. Doyen's first experiments in aerocauterization were carried out in 1896. He then caused to be constructed special tubular adjustments which were adapted to the knife of Paquelin's cautery. The hot gases which emerged by lateral orifices became again heated on coming into contact with the exterior surface of the incandescent platinum, and reached a temperature sufficiently high to cause carbonization of the tissues. The actual arrangement is akin to numerous models of actual cautery, the source of heat being a metal spiral, which is rendered incandescent by electricity.

Superheated air carbonizes the surface of the tissues on to which it is projected to a depth of one or two millimetres, and the subjacent zone is coagulated by the heat to a depth of two or three millimetres. Heat transmitted by superheated air penetrates no farther into living tissues than the heat from a thermo-cautery. This particularity—the limitation of the thermic action of superheated air to a feeble depth—allows of the application of aerocauterization, without hesitation and without danger, for the arrest of certain oozing hæmorrhages and to the cauterization of the inplantation surfaces of tuberculous fungosities after their extraction by curetting.

The advantage of superheated air over cauteries lies in its rapid dissemination over a wide surface. If the projecting tube be moved slowly, immediate carbonization is produced. The temperature of the heated air should be verified beforehand by means of a sheet of paper, which should be carbonized on being brought into contact. The violence of the jet of superheated air drives the blood from the surface of the wound, which becomes carbonized in a few seconds. Aerocauterization, by reason of the dissemination of the thermic effect, is peculiarly applicable to cavities—for example, those following the curetting of large tuberculosis glands which are softened and inflamed, and where complete extirpation is often rendered impossible owing to the extension of the bacillary infiltration to the neighbouring tissues. Since the carbonized surface has to be eliminated, the wound must remain open. It is treated by aseptic plugging. As soon as the whole surface is granulating, secondary reunion may be attempted, after freshening the cutaneous edges, and drainage.

"Doyen was a man of whom all things were probable, and no story of surgical dexterity or boldness lacked credence if it related to him. The position which he occupied in France was unique, and over all the world his name was known." In these words the "*Medical Press*" sums up Doyen's reputation. Of his last work, *"Surgical Therapeutics and Operative Technique," it says in part: "It is not an ordinary text-book of surgery, which puts before the student the reasoned conclusions of the majority, but an expression of the author's personality as well as a revelation of his views and technique. All through the book Doyen is the central figure. His opinions are voiced with such frankness and conviction, his technique, his technique alone, described in such detail, that we can form some estimate of the qualities that made him one of the most remarkable surgeons of our time. None can read even the introduction without being compelled to examine himself, and to consider whether his methods are able to stand criticism. The first volume, read with an open mind, can do nothing but good to surgery. None, young or old, can read it without learning, for in it are found suggestions not found in the conventional treatises and the opinions of an original mind."

The English edition of this work by Dr. H. Spencer-Browne, Chief of Clinique at the Institut Doyen in Paris, is to some extent a posthumous work, as it is not a mere translation of the original French edition, but embodies the material which Mr. Doyen had designed for a new edition shortly before his lamented death. Dr. Spencer-Browne, who was closely associated with the author in preparing the revised edition, has translated it and issued it in English, and, according to the "*Edinburgh Medical Journal*," he has done it "with extraordinary ability. It is proposed to present the English edition in three volumes, which, when completed, if we may judge by the instalment before us, will form a worthy memorial of one of the great French surgeons of the twentieth century."

*"**Surgical Therapeutics and Operative Technique,**" by **E. Doyen,** English Edition prepared by the Author in Collaboration with H. Spencer-Browne, M.B., Chef de Clinique de l'Institut Doyen, Paris, in three volumes, each containing about 750 pages, profusely illustrated. **Subscription price, $25.00; cash price, $22.50 net,** delivery charges prepaid. —Toronto: The Macmillan Co. of Canada, Ltd. See page 48.

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With ears pricked up and body lean,
With movements like a Ford machine?
Why, sonny, that's the Surgeon.

Who drills with litters all about,
"Fours" right and left you hear him shout,
Who looks as though he had the gout?
Why, bless you, that's the Surgeon.

Who makes you strip and counts your ribs
And calls your heart and liver his?
Has pills and powders on his phiz?
Of course, sir, that's the Surgeon.

Who carries all the army lace
And looks for dirt in every place
And then reflects it in his face?
Why, sure, that is the Surgeon.

Who sings a song of sanitation,
Bugs, beetles, lice, and vaccination,
And talks about some ulceration?
You got me, it's the Surgeon.

Who filters water, airs your bed,
Insists on drafts upon your head,
And disinfects you till you're dead?
Why don't you know, the Surgeon.

Who tells us that the Demon Drink
Puts man completely on the blink,
Then pours a slug that makes you wink?
You know! It is the Surgeon.

Alas! he has to do or die.
Sometimes I wish he were on high,
But when I'm sick I sigh and sigh
And quickly call the Surgeon.

—Lieut. W. O. Wetmore, M.R.C., in Jour. Am. Med. Ass'n.

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A CANADIAN MEDICAL WEEK IN HAMILTON

MAY 27th—JUNE 1st, 1918

With the object of conserving the energies of the Medical Profession of this Country in the interests of other necessary War Business, the various bodies here indicated have agreed to co-operate in arranging for a joint Medical Week. We bespeak the interest and assistance of the Medical Profession of the whole of Canada in our efforts. Many topics are of vital interest and National importance.

A TENTATIVE SKELETON OUTLINE OF PROGRAMME

Monday, May 27th

9 a. m. Ontario Health Officers Association.
2 p. m. Ontario Health Officers Association.
Canadian Public Health Association.
8 p. m. Ontario Health Officers Association.
Canadian Public Health Association.

Tuesday, May 28th

9 a. m. Ontario Health Officers Association.
2 p. m. Ontario Health Officers Association.
Canadian Public Health Association.
8 p. m. Ontario Health Officers Association.
Canadian Public Health Association.
8.30 p. m. Ontario Medical Association (Com. of General Purposes.)

Wednesday, May 29th

9 a. m. Canadian Association for the Prevention of Tuberculosis.
Ontario Health Officers Association.
Canadian Public Health Association.
10.30 a. m. Ontario Medical Association (General Business Session)
2.15 p. m. Ontario Medical Association.
2.30 p. m. Canadian Association for The Prevention of Tuberculosis.
8 p. m. Ontario Medical Association.
Canadian Public Health Association (General Session)
Canadian Medical Association.

Thursday, May 30th

9 a. m. Ontario Medical Association (Sections)
2 p. m. Ontario Medical Association (General and Business
Canadian Medical Association. Sessions.)
8 p. m. Ontario Medical Association (General Session.)
Canadian Medical Assoctation.

Friday, May 31st

9 a. m. Ontario Medical Association (Sections.)
2 p. m. Ontario Medical Association (General and Business
Canadian Medical Association. Sessions.)
8 p. m. Ontario Medical Association (General Session.)
Canadian Medical Association.

Saturday, June 1st

9 a. m. Hamilton Clinical Day.

Leading Topics on 27th & 28th to Include

CHILD WELFARE
STATE HEALTH INSURANCE
THE VENEREAL PROBLEM
PROPAGANDA FOR REFORM
MENTAL HYGIENE
RURAL HEALTH
ADMINISTRATION

Subjects for the 29th

SOCIAL AND PUBLIC HEALTH ASPECTS OF TUBERCULOSIS
THE PRESIDENT'S ADDRESS
SYMPOSIUM ON DIAGNOSIS AND TREATMENT IN TUBERCULOSIS
THE RETURNED SOLDIER PROBLEM

General Sessions on 30th & 31st to Include

ADDRESSES ON SURGERY, MEDICINE, OBSTETRICS, PEDIATRICS, EYE, EAR, NOSE AND THROAT
AND A SYMPOSIUM ON INTRA-CRANIAL PRESSURE

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